INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2005/022085

A. CLASSIFICATION OF SUBJECT MATTER
H04B13/00(2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04B13/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2006
Kokai Jitsuyo Shinan Koho 1971-2006 Toroku Jitsuyo Shinan Koho 1994-2006

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2004-153708 A (Nippon Telegraph And Telephone Corp.), 27 May, 2004 (27.05.04), Abstract column & US 2004-92296 A1 & EP 1432140 A2	1-35
A	JP 2003-188835 A (Nippon Telegraph And Telephone Corp.), 04 July, 2003 (04.07.03), Abstract column & US 2003-60162 A1 & EP 1298822 A2	1-35

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
07 February, 2006 (07.02.06)	14 February, 2006 (14.02.06)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/210 (second sheet) (April 2005)

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

(1) It is well known in the art from JP 2004-153708 that an electric field based on information to be transmitted is induced in a field transmission medium by inducing in the field transmission medium an electric field based on a modulating signal modulated from the information to be transmitted, with an AC signal having a predetermined frequency, so that the information to be transmitted is transmitted through that induced electric field.
(continued to extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

the

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, payment of a protest fee..

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☒ No protest accompanied the payment of additional search fees.

Continuation of Box No.III of continuation of first sheet(2)

(2) Therefore, the special technical feature of claims 1-17 is to comprise:
"first reactance means (2, 19) interposed between the output of said transmission means (3, 16) and said transmission electrode (8) for each resonance with a stray capacity to be established between the ground (6, 29) of said transmission means (3, 16) and the earth ground (14), a stray capacity to be established between said field transmission
medium (20) and the ground (6, 29) of said transmission means (3, 16) and a stray capacity to be established between said field transmission medium (20) and said earth ground (14); and
second reactance means (1, 21) interposed for each resonance with said stray capacities between the output of said transmission means (3, 16) and the ground (6, 29) of said transmission means (3, 16) or between said transmission electrode (8) and the ground (6, 29) of said transmission means (3, 16)."

(3) The special technical feature of claims 18-22 is to comprise:
"a resonance circuit including an inductor (203) for resonance with a transmission signal for said communications and a variable capacity diode (204) having an electrostatic capacity varied with the voltage applied; and
a resistor (205) for establishing a potential difference in accordance with a DC current obtained by rectifying said transmission signal inputted to said resonance circuit, with said variable capacity diode (204), to apply the established potential difference between the anode
and the cathode of said variable capacity diode (204)."

(4) The special technical feature of claims 23-26 is to comprise:
"variable reactance means (301) for varying a reactance value so that
the voltage of said transmission to be applied to said field transmission medium (320) may be maximized, thereby to control the resonance state relating to said transmissions between a stray capacity
between the ground of the oscillator (326) and the earth ground and a stray capacity between said field transmission medium (320) and said earth ground;
an inductor (315) for forming a parallel resonance circuit in said variable reactance means (301) so as to establish said resonance state;
and variable capacity means (308, 312, 358, 359, 368, 370, 371, 373, 505, 506, 507, 508, 523, 524, 671) connected in parallel with said inductor (315) and connected in plurality in series so as to control said resonance state in said parallel resonance circuit."

(5) The special technical feature of claims 27-35 is to comprise:
"a resonance circuit including an inductor (203) for resonance with the transmission signal for said communications and a variable capacity
diode (204) having an electrostatic capacity varied with the voltage applied; and
a resistor (205) for establishing a potential difference in accordance with a DC current obtained by rectifying said transmission signal inputted to said resonance circuit, by said variable capacity diode (204), thereby to apply the established potential difference between the anode and the cathode of said variable capacity diode (204)."